

Notice of Allowability

Application No.

10/806,128

Examiner

Sheng-Jen Tsai

Applicant(s)

OGASAWARA ET AL.

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/14/2005.
2. ☒ The allowed claim(s) is/are 1-11 and 21.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

1. This Office Action is taken in response to Applicants' Amendments and Remarks filed on November 14, 2005 regarding Application (10,806,128) filed on March 23, 2004.

Claims 1-20 are presented for examination.

Claims 12-20 have been withdrawn.

Claims 1-2, 4-7 and 10 have been amended.

Claim 21 has been added.

2. ***Response to Amendments and Remarks***

Independent claim 1 has been amended to include new limitations of "wherein said first storage areas are used to store said block data sent from a host computer," "wherein said second storage areas are used to store ... one or more software programs which are executed by said first processors," and "said software programs stored in said second storage area is copied into a backing up storage area."

The newly amended limitations are not taught by the references (Dunphy et al., US 5,077,736; Belsan, US 5,155,835; and Yamamoto, US Patent Application Publication 2002/0152339) that were relied on for the previous claim rejections. Thus claims rejection under 35 U.S.C. 103(a) as being unpatentable over Dunphy et al. (US 5,077,736), in view of Belsan (US 5,155,835), and further in view of Yamamoto (US Patent Application Publication 2002/0152339) have been withdrawn.

Allowable Subject Matter

3. Claims 1-11 and 21 are allowed.

Reasons for Allowable

4. The following is an Examiner's statement of reasons for allowance:

The patentability of Applicants' invention was examined and evaluated against the prior art listed below.

- Dunphy, Jr. et al., (US 5,077,736), "Disk Drive Memory."
- Belsan, (US 5,155,835), "Multilevel, Hierarchical Dynamically Mapped Data Storage Subsystem."
- Yamamoto, (US Patent Application Publication 2002/0152339), "Direct Access Storage system with Combined Block interface and File Interface Access."
- Fujimoto et al., (US 6,385,681), "Disk array Control Device with Two Different Internal Connection Systems."
- Ogasawara et al., (US Patent Application Publication 2004/0148329), "Storage Device System and Storage Device System Activating Method."
- Kanda et al., (US 6,115,797), "Method and System for Sharing Storage Device via Mutually Different Interfaces."
- Ohmura et al., (US 6,237,046), "Input/Output Control Apparatus Managing Cache Memory Utilizing a Spare Hash Table for Operations if First Hash Table Enters a Synonym State."
- Satoh et al., (US 5,568,628), "Storage Control Method and Apparatus for Highly Reliable Storage Controller with Multiple Cache memories."

- Cochran et al., (US Patent Application Publication 2004/0267959), "Storage System with Link Selection Control."
- Elliott, (US 6,763,409), "Switch-On-The-Fly GBIC Disk Channel Adapter and Disk Channel System."

However, none of the prior art of the record teaches or suggests, independently or in combination, the specific features, as recited in claim 1, of

"said second processor located in each said plurality of first channel control units divides a plurality of first storage areas and one or more second storage areas in said plurality of storage devices, wherein said first storage areas are used to store said block data sent from a host computer, wherein said storage areas are used to store processor information regarding a processing state of each of said first processors to be transferred among said plurality of said first processors and one or more software programs which are executed by said first processors, and wherein said storage device control unit copies said processor information and said software programs stored in said second storage area into a backing up storage area."

It is noted that most of the references mentioned above teach storing data in the storage devices, and storing processor information in an area separated from the storage devices. None of them teach storing all three items of (1) data, (2) processor

information and (3) one or more software programs which are executed by the first processors into the storage devices.

This particular feature, combined with other limitations recited in claim 1, makes this invention unique and distinguishes it from the mentioned references.

Conclusion

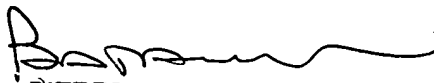
5. Claims 1-11 and 21 are allowed.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheng-Jen Tsai whose telephone number is 571-272-4244. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sheng-Jen Tsai
Examiner
Art Unit 2186

December 1, 2005


PIERRE BATAILLE
PRIMARY EXAMINER
12/21/05